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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,355	12/08/2003	TING-WEI CHUANG	9612-US-PA	1354

31561 7590 05/05/2006

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER	
YAM, STEPHEN K	
ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/707,355	CHUANG ET AL.	
	Examiner	Art Unit	
	Stephen Yam	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to Amendments and remarks filed on March 6, 2006. Claims 1-24 are currently pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al. US Patent No. 6,424,326.

Regarding Claims 1 and 13, Yamazaki et al. teach (see Fig. 1-14) an organic electroluminescent device (see Col. 1, lines 38-62 and Col. 22, lines 52-61) and method for fabricating an organic electroluminescent device, comprising a transparent substrate (500) (see Fig. 10-13), a plurality of pixels (555, 557, 558) (see Fig. 13A-13B) disposed on the transparent substrate (see Col. 5, lines 52-54), wherein the pixels comprise a plurality (see Col. 17, lines 10-11) of red-light pixels, a plurality of green-light pixels and a plurality of blue-light pixels (see Col. 5, lines 62-65 and Col. 12, lines 56-59 and Col. 22, lines 24-31), a red-light detector (550/104a) disposed adjacent (see Fig. 12C and 13A-13B) to a red-light pixel (elements 555, 557, 558 constituting the pixel are adjacent to the detector 550 in Fig. 12C, 13A-13B) on the transparent substrate, a green-light detector (104b) disposed adjacent to a green-light pixel on the

transparent substrate (see Fig. 12C, 13A-13B), and a blue-light detector (104c) disposed adjacent to a blue-light pixel on the transparent substrate (see Fig. 12C, 13A-13B).

Regarding Claim 2, Yamazaki et al. teach (see Fig. 13A-13B) each pixel comprising, in sequence, a transparent anode (555) (see Col. 22, lines 2-8), an organic electroluminescent layer (557) (see Col. 22, lines 52-61), and a metal cathode (558) (see Col. 22, lines 18-20).

Regarding Claim 3, Yamazaki et al. teach the transparent anode comprising indium-tin oxide or indium-zinc oxide (see Col. 22, lines 2-9).

Regarding Claim 4, Yamazaki et al. teach the organic electroluminescent layer is made of-small molecular organic electroluminescent material or polymer electroluminescent material (see Col. 32, line 65 to Col. 33, line 5).

Regarding Claim 5, Yamazaki et al. teach the metal cathode comprising aluminum, aluminum/lithium fluorine, calcium, magnesium/silver alloy or silver (see Col. 22, line 18).

Regarding Claim 10, Yamazaki et al. teach (see Fig. 14) a light guider (660) coupled to each of the pixels transmitting the light within the device to the corresponding detector (see Col. 25, lines 26-31).

Regarding Claim 11, Yamazaki et al. teach (see Fig. 3) a driving unit (130, 131) coupled to each of the pixels (132 in Fig. 3), and each of the red-light detector, the green-light detector and the blue-light detector (136 in Fig. 3) coupled to transfer units (134, 135) (see Fig. 3).

Regarding Claim 12, Yamazaki et al. teach (see Fig. 3) the driving unit and the transfer units are coupled to a control unit (to generate control signals RL, G).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 6-9 and 14-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. in view of Heeger et al. US Patent No. 5,504,323.

Regarding Claims 6 and 14, Yamazaki et al. teach the device and method in Claims 1 and 13, according to the appropriate paragraph above. Regarding Claim 6, Yamazaki et al. teach (see Fig. 12C) each of the red-light detector, the green-light detector and the blue-light detector comprising, in sequence, a metal anode (551) (see Col. 21, lines 51-55), a photoelectric layer (550), and a metal cathode (549). Regarding Claim 14, Yamazaki et al. teach the step of forming the pixels comprises forming a patterned transparent anode (555) (see Col. 22, lines 2-8) on the transparent substrate (see Fig. 13A-13B), forming an organic electroluminescent layer (557) (see Col. 22, lines 52-61) on the transparent anode (see Fig. 13A-13B), and forming a metal cathode (558) (see Col. 22, lines 18-20) on the organic electroluminescent layer, with the step of forming the red-light detector, the green-light detector and the blue-light detector comprises forming a patterned metal anode (551) (see Col. 21, lines 51-55), on the transparent substrate (see Fig. 12C), forming a photoelectric layer (550) on the metal anode (see Fig. 12C), and forming a metal cathode (549) on the photoelectric layer (see Fig. 12C). Yamazaki et al. do not teach the photoelectric layer as an electroluminescent layer. Heeger et al. teach (see Fig. 2) a detector having a cathode and an anode, with a photoelectric layer (11) as an electroluminescent layer (see Col. 2, lines 8-10 and Col. 3, lines 49-51). It would have been obvious to one of ordinary

skill in the art at the time the invention was made to use an electroluminescent layer as a photoelectric layer as taught by Heeger et al. in the device and method of Yamazaki et al., to re-use materials (organic electroluminescent polymer) during the fabrication of the device for simplifying the manufacturing process.

Regarding Claims 8 and 17, Yamazaki et al. teaches the photoelectric layer comprising an organic material (see Col. 1, lines 39-43 and Col. 37, lines 29-31).

Regarding Claim 15, Yamazaki et al. teach the transparent anode comprising indium-tin oxide or indium-zinc oxide (see Col. 22, lines 2-9).

Regarding Claim 18, Yamazaki et al. teach the organic electroluminescent layer is made of-small molecular organic electroluminescent material or polymer electroluminescent material (see Col. 32, line 65 to Col. 33, line 5).

Regarding Claims 21 and 23, Yamazaki et al. teach the electroluminescent layer comprising an inorganic material (see Col. 37, lines 24-27, 32-35).

Regarding Claim 20, Yamazaki et al. teach the metal cathode comprising aluminum, aluminum/lithium fluorine, calcium, magnesium/silver alloy or silver (see Col. 22, line 18).

Regarding Claims 7 and 16, Yamazaki et al. in view of Heeger et al. teach the device and method in Claims 6 and 14, according to the appropriate paragraph above. Yamazaki et al. do not teach the metal anode comprising a *non-transparent* metal layer. It is well known in the art to adjust the transparency of electrode layers of a patterned photodetector, depending on the desired sensitivity of the photodetector and the propagation of light to the photodetector. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the metal anode comprising a *non-transparent* metal layer in the device and method of

Yamazaki et al. in view of Heeger et al., to provide detection light through the side of the photodetector to prevent saturation of the photodetector output.

Regarding Claims 9, 19, 22, and 24, Yamazaki et al. in view of Heeger et al. teach the device and method in Claims 6 and 14, according to the appropriate paragraph above. Yamazaki et al. also teach selecting other known materials to form the metal cathode. Yamazaki et al. do not teach the metal anode having the same material of the metal cathode or having a different material of the metal cathode. It is well known in the art to select an appropriate material for a component, depending on the desired operating characteristics, costs, or other factors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the metal anode having the same material of the metal cathode or having a different material of the metal cathode, in the device and method of Yamazaki et al. in view of Heeger al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Arguments

5. Applicant's arguments filed March 6, 2006 have been fully considered but they are not persuasive.

Regarding Applicant's arguments on Claims 1 and 13, Applicant argues that Yamazaki does not teach a red-light detector *disposed adjacent to a* red-light pixel on the transparent substrate, a green-light detector *disposed adjacent to a* green-light pixel on the transparent

substrate, or a blue-light detector *disposed adjacent to a* blue-light pixel on the transparent substrate. Applicant contends that "the red-light detector 104a in Yamazaki is not disposed 'adjacent' to the red-light pixels 105". Examiner asserts that in the previous and current Office Actions, reference numerals 555, 557, and 558, as illustrated in Fig. 13A-13B, were correlated with the claimed "pixels". These elements are located within the **sensor** portion of the device, as Fig. 13A-13B illustrates the construction of the **sensor** pixels (see Col. 17, lines 23-25), not the display pixels as suggested by Applicant by reference to reference numeral 104a. Examiner asserts that each sensor "pixel" 104a,b,c of Yamazaki contains both a light-emitting element composed of EL components 555, 557, 558 (which Examiner relates to the "pixel" recited in Applicant's claim language) shown in Fig. 13A-13B and also a photoelectric converting element 550, first illustrated in Fig. 12C and further shown in Fig. 13A-13B. Yamazaki provides further support in the specification in Col. 2, lines 65-67:

> "The sensor pixel(s) is **composed of an EL element and a light receiving diode** that detects the amount of change in the luminance of the EL element."

and in Col. 3, lines 3-6:

> "**The sensor EL element** has the **same structure** as that of the EL element (hereinafter referred to as **display EL element**) of the pixels (hereinafter referred to as display pixel) of the display portion"

and in Col. 3, lines 21-26:

> "Thus, **an equivalent voltage** is applied to the EL layers of the **sensor EL element** and the **arbitrarily selected display EL element**, whereby the **deterioration rates of the EL layers are nearly equivalent**. Therefore, the luminance of the sensor EL element and the luminance of the display EL

> element maintain almost equivalent states even as time elapses.
>
> **Light emitted by the sensor EL element**, on one hand, is **irradiated to the light receiving diode** of the sensor pixel. Then, **the light receiving diode detects the luminance of the sensor EL element**. On the basis of the information of the luminance of the sensor EL element that was detected, the luminance of the display EL element is revised, and the luminance of the sensor EL element is also revised at the same time. "

Yamazaki further discloses having multiple sensor pixels for each color in Col. 17, lines 10-11:

> "A **plurality** of sensor pixels **corresponding to each color** may also exist."

Thus, Examiner contends that elements 555, 557, and 558 properly correspond to the "pixel" recited in Applicant's claim language and that the detector 550 within element 104a is disposed adjacent to the pixel, as illustrated in Fig. 12C, 13A-13B. Thus, Examiner contends that Claims 1 and 13 are properly rejected under 35 U.S.C. 102(b) by Yamazaki.

Regarding Applicant's arguments on Claims 5 and 20, Applicant argues that Yamazaki does not disclose the elements "aluminum, aluminum/lithium fluorine, calcium" and "silver". Examiner asserts that Claim 5 recites:

> ... wherein the metal cathode comprises aluminum, aluminum/lithium fluorine, calcium, magnesium/silver alloy **or** silver".

Examiner asserts that the use of the word "*or*" signifies that **only one** of the components within the list of components is required for anticipation. Since Yamazaki teaches the metal cathode

comprising magnesium/silver alloy (MgAg) in Col. 22, line 18, Examiner asserts that Claims 5 and 20 are properly rejected by Yamazaki (in view of Heeger et al. for Claim 20).

Regarding Applicant's arguments on Claim 11, Applicant argues that elements 130, 131, 134, and 135 are elements within the sensor pixel 104 and thus, cannot be "coupled to" the sensor pixels 104a, 104b, 104c. Examiner asserts that elements 555, 557, and 558 (illustrated in Fig. 13A-13B) which compose the sensor EL element and are located within element 132 in Fig. 3, correspond to the "pixel" recited in Applicant's claim language, as explained in the initial and present Office Actions and in the above response to arguments. Thus, Examiner asserts that elements 130, 131, 134, and 135 corresponding to the recited driving unit and transfer unit in Claim 11 are external to the pixel (elements 555, 557, and 558 within element 132 illustrated in Fig. 13A-13B) and are further external to the detector (element 550 within element 136, illustrated in Fig. 12C, 13A-13B), and are further shown to be coupled to the pixel and detector, as seen in Fig. 3.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Yam whose telephone number is (571)272-2449. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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THANH X. LUU
PRIMARY EXAMINER